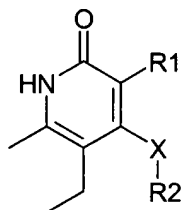


CLAIMS

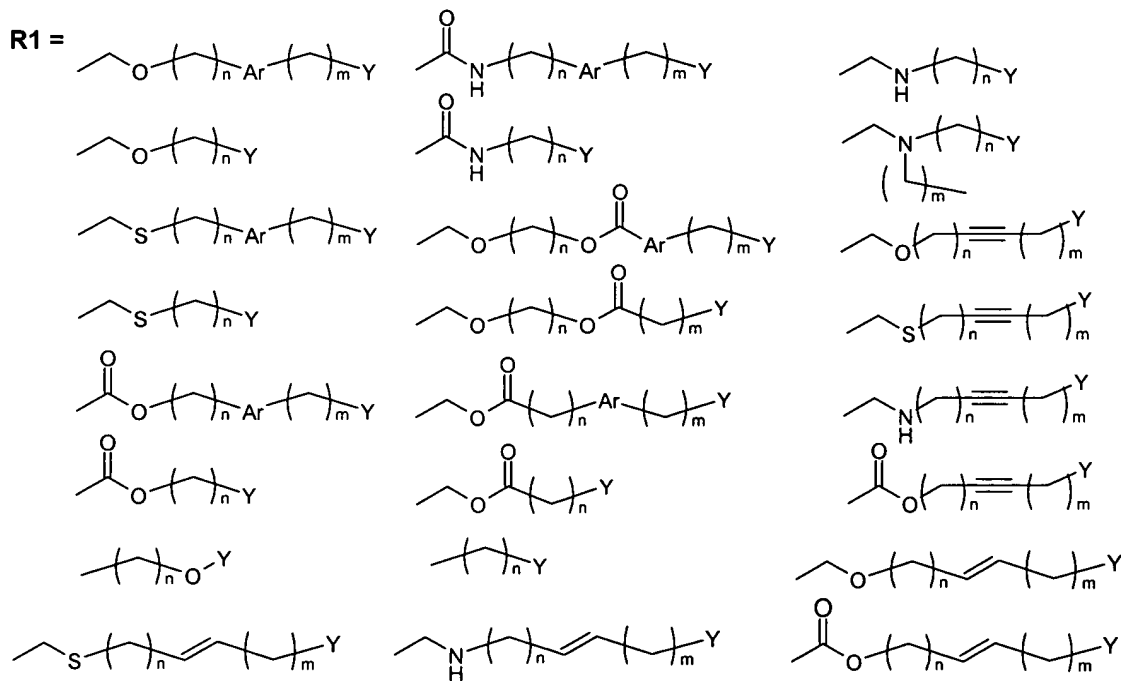
1. A 5-ethyl-6-methyl-2-pyridinone derivative compound according to general formula I,



(formula I)

5 wherein

X = O, S, NH, C=O, (C_nH_{2n}), (C_nH_{2n})O, O(C_nH_{2n}), (C_nH_{2n})S, S(C_nH_{2n}) with n = 1-4

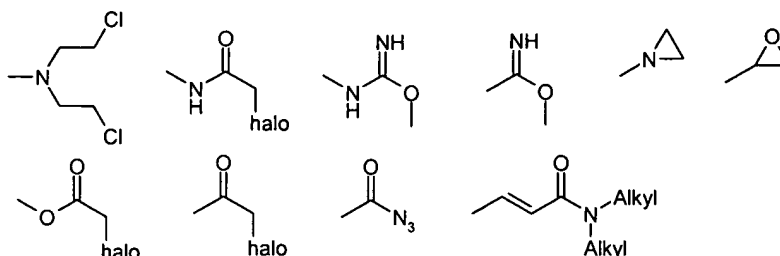


with n, m = 0 - 8

Ar = Aromatic ring selected from : phenyl, pyridyl, thiazolyl, furanyl, thiophenyl, benzofuranyl, benzothiophenyl, benzothiazolyl, imidazolyl, indolyl, each optionally substituted with up to 4 substituents selected from : halo, hydroxy, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ hydroxyalkyl, C₁₋₄ alkylamino, amino, C₁₋₄ aminoalkyl, C₁₋₄ alkylcarbonyl, C₁₋₄ dialkylamino, azido

Y = alkyl, amino, nitro or

Y = H, halo, alkylamino, dialkylamino, nitrile, hydroxy, C₁₋₆alkyloxycarbonyl, C₁₋₆alkylcarbonyloxy, C₅₋₇ cycloalkyl optionally substituted with up to 4 substituents selected from : halo, hydroxy, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ hydroxyalkyl, C₁₋₄ alkylamino, amino, C₁₋₄ aminoalkyl, C₁₋₄ alkylcarbonyl, C₁₋₄ dialkylamino, azido, nitrile;
or Y can be :



R2 = C₇₋₉ cycloalkyl;

C₅₋₈ cycloalkyl substituted with up to 4 substituents;

C₅₋₈cycloalkenyl optionally substituted with up to 4 substituents;

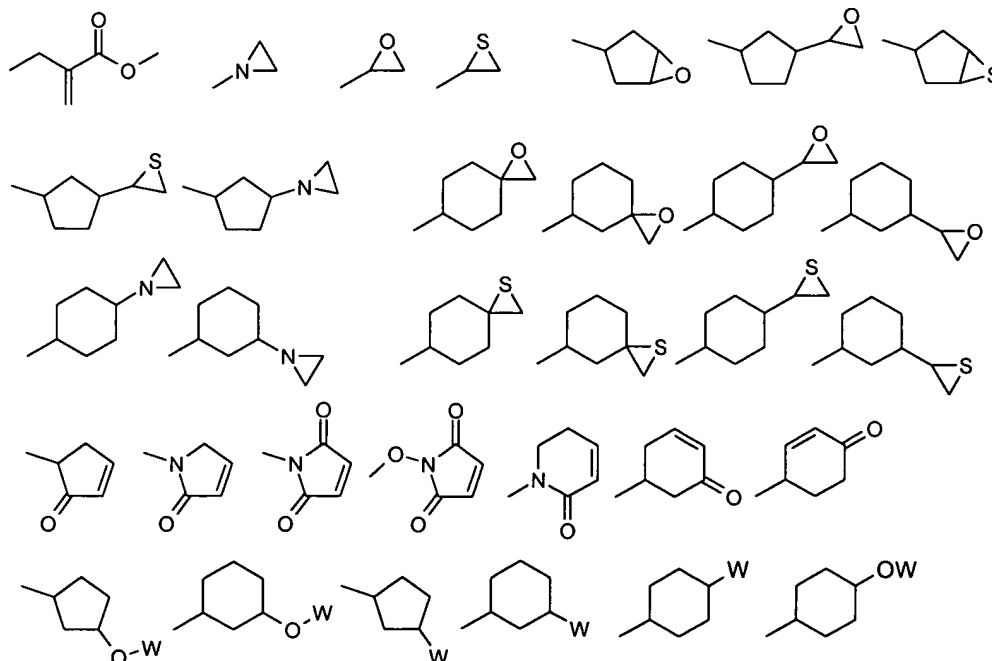
C₅₋₈aliphatic heterocycle optionally substituted with up to 4 substituents;

C₆₋₉-bridged cycloalkyl optionally substituted with up to 4 substituents;

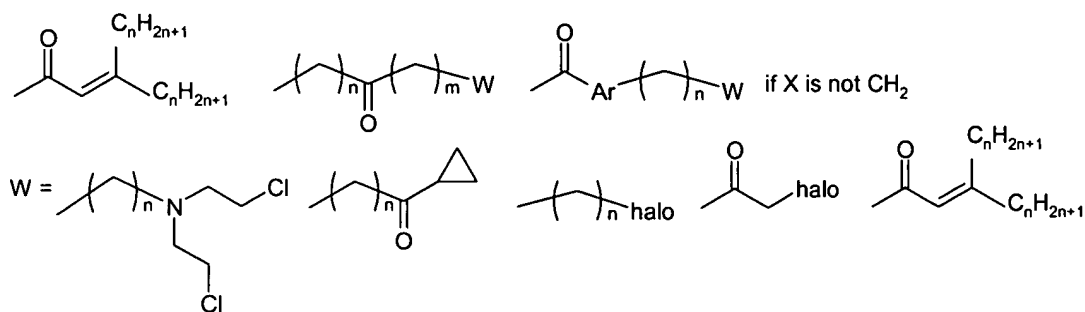
C₆₋₉bridged cycloalkenyl optionally substituted with up to 4 substituents;

substituents selected from :

halo, hydroxy, C₁₋₄ alkyl, C₁₋₄ alkoxy, C₁₋₄ hydroxyalkyl, C₁₋₄ alkylamino, amino, C₁₋₄ aminoalkyl, C₁₋₄ alkylcarbonyl, C₁₋₄ dialkylamino, azido, CN;



Or R2 can be :



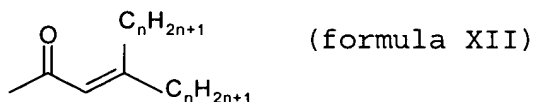
$n, m = 0 - 8$

2. The compound according to claim 1 which comprises a substituted cycloalkyl group as R2 in position 4 of the pyridinone ring.

5 3. The compound according to claim 2 wherein the substituted cycloalkyl group is a 3,5-dimethylcyclohexyl moiety.

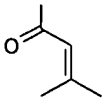
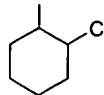
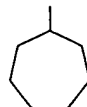
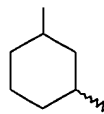
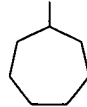
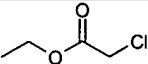
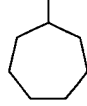
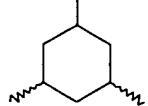
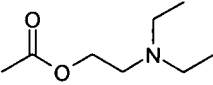
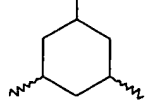
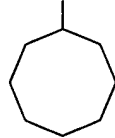
4. The compound according to claim 1 which comprises a C7-9 cycloalkyl group as R2 in position 4 of the pyridinone ring.

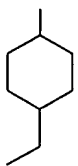

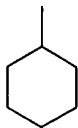
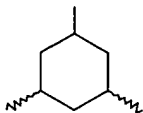
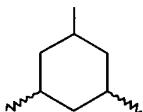
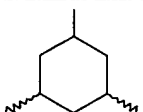
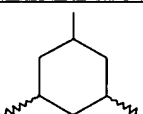
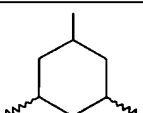
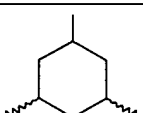
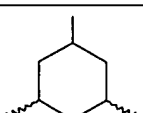
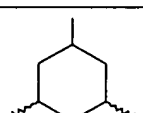
5. The compound according to claim 1 wherein R2 has the formula XII

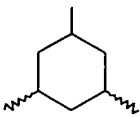
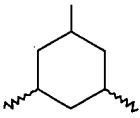


with $n = 0 - 8$.

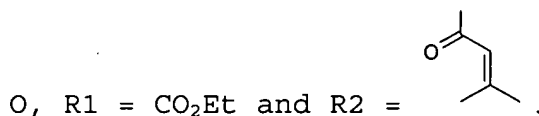
6. The compound according to claim 1 which is selected from the group consisting of M18, Z12, Z25, Z30, Z32, Z33, Z37, Z37inv, Z53, Z54, Z55, Z57, Z45inv, Z91inv, Z96inv, Z114, Z121, Z122, Z150, Z153, Z154 and 5 Z167, wherein X, R1 and R2 are as indicated below:

N°	X	R1	R2
M18	O	CO ₂ Et	
Z12	O	CO ₂ Et	
Z25	O	CO ₂ Et	
Z30	O	CO ₂ Et	
Z32	O	CH ₂ OH	
Z33	O		
Z37	O	CO ₂ Et	
Z53	O		
Z54	O	CO ₂ Et	

Z55	O	CO ₂ Et	
Z57		CO ₂ Et	
Z45inv	O	CH ₂ OH	
Z91inv	O	NO ₂	
Z96inv	O	NH ₂	
Z114	O	CH ₂ SCOMe	
Z121	O	CH ₂ S(CH ₂) ₂ OH	
Z122	O	CH ₂ S(CH ₂) ₂ OCOCH ₂ Cl	
Z150	O	NMe ₂	
Z153	O	CH ₂ N ₃	

Z154	O	Me	
Z167	O	Et	

7. A compound according to claim 1, with X =



8. A pharmaceutical composition comprising the compound according to the claim 1 and an acceptable
5 carrier and/or diluent.

9. The composition according to claim 8 further comprising another anti-viral agent.

10. The composition according to claim 9, wherein the said anti-viral agent is Nevirapine.

11. A method for the treatment and/or the
10 prevention of HIV-1 infections in a mammal, which comprises the step of administrating the compound of claim 1 or the composition of claim 8 to the mammal.

12. The method according to the claim 11 for
15 the treatment and/or prevention of HIV-1 infections by a strain resistant to at least one anti-viral agent.

13. The method of claim 12 wherein said anti-viral agent is Nevirapine.

14. A method for obtaining an irreversible
20 anti-HIV-1 compound, which comprises the steps of:

- selecting an anti-HIV-1 compound that interacts with a binding site of an HIV-1 enzyme,
- introducing a chemical modification in the structure of the anti-HIV-1 compound that allows the formation

of at least one covalent bond between the compound and an amino acid of said HIV-1 enzyme.

15. The method of claim 14, wherein the HIV I binding site is the allosteric site of HIV I reverse transcriptase.

16. The method of claim 1 wherein the anti-HIV-1 compound is an NNRTI.

17. An irreversible NNRTI obtainable by the method of claim 16.

18. The irreversible NNRTI according to claim 17 which is a compound (Z122) according to formula I with X

